and the extent of atherosclerosis in coronary patients are not well described. To determine whether increasing levels of homocysteine are related to the extent of overall atherosclerosis (coronary and extracoronary), we recruited 50 patients with coronary artery disease (CAD) only, and 25 other CAD patients with symptoms also in another atherosclerotic territory (cerebral, peripheral or both). They were compared to control subjects matched for age and sex. Plasma level of homocysteine was 9.9 ± 0.5 μmol/L (mean ± s.e.m.) in controls, 11.7 ± 0.7 μmol/L in patients with CAD only ($p < 0.05$) and 15.7 ± 1.5 μmol/L in patients with symptomatic atherosclerosis in 2 or 3 arterial territories ($p = 0.01$). The extent of coronary atherosclerosis evaluated by an angiographic coronary score correlated significantly to plasma homocysteine levels. The patients with both hypertension and high levels of homocysteine (> 11.3 μmol/L, median value) had more severe coronary atherosclerosis (score of 16.3 ± 2.3 versus 11.9 ± 0.9, $p < 0.05$) and a trend to more diffuse atherosclerosis (number of atherosclerotic territories of 1.5 ± 0.2 versus 1.2 ± 0.7, $p = 0.08$) than the patients without this association. There were no other high risk association when considering the other classical risk factors and plasma homocysteine levels. In conclusion, more diffuse atherosclerosis was found in coronary patients with high levels of homocysteine.

943-137 Carotid Atherosclerosis as a Predictor of the Extent of Coronary Artery Atherosclerosis

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It is known that symptomatic carotid artery disease (CD) is very often associated with coronary artery disease (CAD). However, the incidence of asymptomatic CD (luminal stenosis > 50% of diameter) in patients (pts) with angiographically documented CAD (luminal narrowing of 70% or more [at least 50% diameter narrowing] in at least one vessel) has not been adequately studied. For this purpose, we studied 353 consecutive patients aged > 50 years old (mean age 59.2 ± 5.8, range 50–78) who underwent diagnostic coronary arteriography. Of these, 102 had 1-vessel disease (1-VD), 93 had 2-vessel disease (2-VD), 95 had 3-vessel (3-VD), and 35 had left main coronary artery disease (LM-D). In order to detect CD, the Duplex technique was used. All patients were classified into six categories according to the degree of carotid lumen stenosis (1:0%, 2:1–15%, 3:16–49%, 4:50–79%, 5:80–99%, 6:total occlusion). The incidence of CD was 5.9% (6/102 pts), 15.1% (14/93 pts), 23% (23/95) and 42.9% (15/35 pts) in the groups with 1-VD, 2-VD, 3-VD and LM-D, respectively. Stepwise multiple regression analysis revealed that age, hypertension, the ratio: total cholesterol/HDL cholesterol, and LM-D, were independent risk factors for the extent of CD ($p < 0.05$). The results of the present study indicate that among pts with CAD the pts with 3-VD or LM-D have a high incidence of CD and accordingly they should be evaluated for CD, especially in the presence of advanced aged, hypertension, and unfavorable total cholesterol/HDL cholesterol ratio.

943-138 Lack of Association of the Angiotensin Converting Enzyme DD Genotype with Peripheral Vascular Disease

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Angiotensin converting enzyme (ACE) gene polymorphism (I/D) accounts for half of the variance in serum enzyme levels, and is associated with myocardial infarction, ischemic or idiopathic cardiomyopathy, and other cardiovascular diseases. Angiotensin II is a growth factor for cardiac myocytes and vascular smooth muscle cells, and may play a role in the development of various vascular diseases such as atherosclerosis. To evaluate the relationship of ACE gene polymorphism and peripheral vascular disease (PVD), we studied 166 patients (age 67.3 ± 8.2 years) with documented PVD (ankle:brachial index, ABI < 0.8) and 100 age matched controls (age 67.9 ± 7.1 years) with no PVD (ABI > 0.8). Among the PVD patients 52 (31.3%) had DD genotype, 78 (47.0%) ID, and 36 (21.7%) II genotype. Among the 100 controls, 32 (32%) had DD genotype, 45 (45%) ID, and 23 (23%) II genotype. These frequencies conform closely to the Hardy-Weinberg equilibrium ($p = 0.806$). The allele frequency of D was 0.55 in both the PVD group and the controls. There was no statistically significant association between DD genotype and the presence of PVD ($p = 0.954$).

In conclusion, this study in a small number of patients shows a nearly identical distribution of the ACE genotype polymorphism in patients with and without peripheral vascular disease.

943-139 Combined Carotid and Aorta Intima-Media Thickness: A Powerful Marker for Predicting Normal Coronary Arteries in Patients with Valvular Heart Disease

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Prevalence of coronary artery disease (CAD) in patients (pts) with valvular heart disease (VHD) was reported to be low, however, coronarography angiography is still performed in the majority of these patients. The aim of the study was to assess the value of combined carotid and aorta IMT with B mode high resolution ultrasonography and transesophageal echocardiogram of the thoracic aorta to predict normal coronary arteries in patients before valvular replacement. *Method:* 116 consecutive patients aged more than 40 years being investigated before surgery. Aortic intimal wall thickness was graded as followed: 1–1.9 mm; 2–2.9 mm, 3–3.9 mm; ≥4 mm. Mean carotid IMT was measured on the posterior wall of each common carotid artery (CCA). Results were compared to angiographically documented coronary stenosis. CAD was defined as ≥60% diameter stenosis of any major branches. *Results:* 26/116 pts had proved CAD. IMT of CCA was, 0.58 ± 0.1 mm in pts without CAD and 0.70 ± 0.2 mm in pts with CAD ($p < 0.0001$). Aortic plaque ≥3 mm was detected in 26/26 pts with CAD and 48/90 pts without CAD. IMT ≤ 0.55 mm on CCA combined with atheroma <3 mm on the thoracic aorta had a sensitivity of 96%, specificity of 70% and a VPN of 98% for predicting absence of CAD. *Conclusion:* This 2 combined safe methods could be an interesting screening test to select patients who required preoperative angiography before surgery.

944 Epidemiology of Atherosclerotic Coronary and Vascular Disease

Monday, March 17, 1997, Noon–2:00 p.m.
Anaheim Convention Center, Hall E
Presentation Hour: Noon–1:00 p.m.

944-45 The Severity of Coronary Artery Disease is More Closely Correlated With Peripheral Artery Occlusive Disease Than With Cerebrovascular Atherosclerosis

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Associations between the prevalence of coronary artery disease (CAD) and the intima-media-thickness (IMT) of carotid arteries have been shown. A relation between CAD and IMT of femoral arteries is under discussion. Recent studies stated an increased IMT of femoral arteries to be highly predictive of CAD. To investigate, whether the IMT of carotid or femoral arteries is closer related to the degree of CAD, we analysed 150 consecutive patients with known CAD. The extent of CAD was estimated according to a scoring system provided by the American Heart Association. IMT of carotid and femoral arteries was determined according to standardized protocols using high-resolution two-dimensional duplex-ultrasound. All patients showed IMT above normal limits at carotid (0.78 ± 0.14 mm) and femoral (1.12 ± 0.36 mm) artery sites. Both IMT of carotid and femoral arteries showed a statistically significant correlation with the degree of CAD, however the correlation of IMT of femoral arteries ($r = 0.5827$; $p < 0.001$) was much higher than that of IMT of carotid arteries ($r = 0.3197$; $p = 0.027$). Both IMT of carotid and femoral arteries represent a reliable measure of the prevalence of CAD. Furthermore a linear correlation with the degree of CAD could be shown. The divergent extents of correlation when comparing various arterial sites for the extent of atherosclerosis suggests partly different pathophysiological mechanisms. The remarkably closer relation of the intima-media-thickness of femoral arteries with CAD probably allows a improved noninvasive stratification of risk and extent of CAD.

944-46 Risk of vascular events during follow-up in patients with aortic arch atherosclerosis

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An association between aortic arch atherosclerosis (AAA) and vascular